

25/9/13



B.E., (Full Time) DEGREE END SEMESTER EXAMINATION, November/December 2013

CIVIL ENGINEERING

THIRD SEMESTER (REGULATION 2004/2009)

CE273 /CE9203 SURVEYING I

Time: 3 hr

Max. Mark: 100

Answer ALL Questions
Part – A (10 x 2 = 20 Mark)

1. List the classification of survey based on (i) Purpose (ii) Instruments
2. Determine the scale of plan and the representative fraction for a line 150 meters long is represented by 7.5cm on plan.
3. Differentiate Radiation and Resection in Plane Table surveying.
4. Differentiate between direct levelling and indirect levelling.
5. What is Cross Sectioning and write its importance?
6. What is Reciprocal Levelling?
7. How would you measure horizontal angle by method of repetition? What is its advantage?
8. Can you use a theodolite as a levelling instrument? If so, how?
9. In what respects, a mining theodolite differs from an ordinary theodolite?
10. What is Weisbach triangle? When it is used in mine?

Part – B (5 x 16 = 80 Mark)

11. (i) Describe the methods used for setting perpendicular in chain surveying (8 marks)
- (ii) List the types of Ranging and Explain the use and working of line ranger (8marks)
12. (a) The following are bearings taken on a closed traverse in clockwise direction.

Line	FB	BB
AB	124°30'	304°30'
BC	68°15'	246°0'
CD	310°30'	135°15'
DA	200°15'	17°45'

Compute the interior angles and correct them for Local Attraction. (16 marks)

OR

12 (b) What is Two Point Problem? Describe the procedure in details (16 marks)

13 (a) The following consecutive readings were taken with a dumpy level

1.895,1.500,1.865,2.570,2.990,2.020,2.410,2.520,2.960,3.115. The level was shifted after fourth, sixth and ninth readings. The RL of the first point was 30.500. Rule out a page of your answer

book as a level book, and fill all columns. Use collimation system and apply the usual checks. Indicate the highest and lowest points. (16 marks)

(OR)

13. (b) (i) Explain the uses of contour maps (8 marks)
(ii) Discuss various methods of interpolating the contours (8 marks)

14. (a) A closed traverse was conducted round an obstacle and the following observations were made. Work out the missing quantities;

Line	Length in m	Bearing
AB	-	33 °45'
BC	300	86 ° 23'
CD	-	169 ° 23'
DE	450	243 ° 54'
EA	268	317 ° 30'

(16 marks)

(OR)

14. (b) What is Balancing the traverse? Explain about Gale's Table for balancing the closed traverse (16 marks)

15. (a) i) Two tangents intersect at chainage 1192.00 meters. The deflection angle being 50° 30'. Calculate the necessary data for setting out a curve of 300m radius to connect the two tangents if it is intended to set out the curve by deflection distances method. Take peg interval (full chord length) equals to 20 meters. Explain the Field procedure to set out this curve by deflection Distances method. (16 marks)

(OR)

15. (b) (i) What are the basic differences in mine surveying and conventional surface surveying? Explain in brief. (8 marks)
(ii) Discuss in detail about Route survey for highways and Railways. (8 marks)